

Remarks

Section 1 on page 2 of the 10 May 2004 Office Action objected to Fig. 2 due to the omission of reference number "32". The amendment to the drawings herein corrects this omission. Accordingly, applicants believe this objection has been overcome.

Sections 2 and 3 on pages 2-3 of the Office Action objected to the disclosure due to an omission of a "Brief Summary of the Invention" section. The amendment to the specification herein corrects this omission. No new subject matter has been added because the added text follows the definition of the invention presented in originally-filed claim 1. Accordingly, applicants believe this objection has been overcome.

Sections 4 and 5 on pages 3-5 of the Office Action rejected claims 1, 4, 5, 10-12, 14, 15 and 18 under 35 U.S.C. §102(e) as being anticipated by *Salinger* (U.S. Patent No. 6,304,594). Sections 6 and 7 on pages 6-9 of the Office Action rejected claims 6-9, 13, 16, and 17 under 35 U.S.C. §103(a) as being unpatentable over *Salinger*. And, section 8 on pages 9-15 of the Office Action rejected claims 2, 3, and 19-21 under 35 U.S.C. §103(a) as being unpatentable over *Salinger* in view of *Curtis* (U.S. Patent No. 5,339,307). Applicants respectfully disagree with these rejections and hereby request reconsideration.

The following discussion refers to the context within which the present invention defined by applicants' claims is to be understood. This contextual discussion is being presented to confirm the meaning of certain words, for example: "transmitter", used in applicants' claims as distinguished from other words, for example: "receiver," "channel," "transceiver," "radio," and "communication system." These words are well-understood by those skilled in the art, and they are used consistently having this

well-understood meaning within the present application and in the *Salinger* reference upon which the Office Action relies. This discussion is necessary because the Office Action misinterprets these words in a manner that is not supported by the well-understood meanings conveyed in applicants' specification or even the *Salinger* reference. The following discussion is not to be interpreted as adding any language or limitation into any claim that is not already in that claim.

Salinger and the present invention have certain features in common, but not the features set forth in independent claims 1, 11, or 19. The context for both *Salinger* and the present invention includes a communication system in which transceivers or radios on opposing sides of a communication channel communicate with one another. Fig. 1 of this application teaches of this context, for example, where the transceivers are called radios 12 and 16, and bidirectional communication signals 18 pass through communication channels. But, as noted on page 5 beginning at line 30 in applicants' specification, the focus here is on the forward link of the bidirectional communication channel. Thus, applicants' independent claims do not recite, nor does the present invention require, the presence of a receiver. While a single transceiver or a radio may include both a transmitter and a receiver on the same side of a communication channel, it is only the transmitter that is the focus of the present invention. This feature is reflected by the fact the preambles of each independent claim and even the title of this application recite a "transmitter."

The difference between transmitters, communication channels, and receivers is well known to those skilled in the art. Both applicants' specification and the *Salinger* reference discloses these components and apply the terms in the well-understood context. Namely, from an input signal the transmitter prepares

and applies a transmitted communication signal to a communication channel, and a receiver obtains a received communication signal from the communication channel and prepares an output signal from its received communication signal. In opposition to this well-understood context of a communication system having a transmitter, communication channel, and receiver, the Office Action derives a convoluted meaning for the word of "transmitter" that is not supported by applicants' specification, the prior art, or the commonly-understood meaning for the term "transmitter".

The following remarks now discuss independent claim 1 in relation to the *Salinger* reference. As the Office Action refers its rejection of independent claim 11 to its discussion of claim 1, this following discussion also applies to claim 11 by reference. Moreover, for the purposes of comparison with the *Salinger* reference, these remarks also apply to independent claim 19.

As discussed above, the preamble of claim 1 recites that the present invention is a transmitter. The word transmitter is used in its conventional, well-understood meaning within the context of a communication system having a transmitter, communication channel and receiver. The body of claim 1 recites three elements (namely an upstream module, intra-transmitter signal transporter, and downstream module) each of which are included within the transmitter.

Salinger also discloses a transmitter, communication channel and receiver, and uses these terms in the conventional way. Thus, *Salinger* teaches of a transmitter 16 which transmits a communication signal, which *Salinger* calls a signal of interest (SOI) into a communication channel 30, which *Salinger* calls the forward transmission channel. A receiver 18 obtains a received

communication signal from the communication channel 30 and prepares an output signal, called output stream 46, from its received communication signal.

Since *Salinger* discloses a bidirectional communication system, information is also sent from the receive-side of the forward transmission channel 30 and received at the transmit-side of the forward transmission channel 30. This opposing part of the bidirectional communication channel is referred to a reverse control channel 58. Because the focus in *Salinger* is on the forwardly-directed signal of interest (SOI), *Salinger* provides little-to-no discussion of the additional transmitter and additional receiver inherently needed to communicate over reverse channel 58. Moreover, the information sent over reverse control channel 58 in *Salinger* is not the information previously sent over the forward channel 30 from transmitter 16 to receiver 18 and provided at output stream 46. That would be ridiculous because transmitter 16 has no need of the same information it just sent to receiver 18. Transmitter 18 already has (or had) such information and most probably has (or had) it in a more error-free form. Rather, the information sent over reverse control channel 58 is control data complied in the receiver.

Salinger neither teaches nor suggests that which applicants claim in claim 1. The Office Action alleges that the *Salinger* transmitter 16 teaches applicants' recited upstream module, that the *Salinger* communication channel 30 teaches applicants' recited intra-transmitter signal transporter, and that the *Salinger* receiver 18 teaches applicants' recited downstream module. Since *Salinger* teaches a transmitter 16 and since the communication channel 30 is outside transmitter 16, it cannot be viewed as teaching an "intra-transmitter" anything because "intra" means within. For this reason alone, claim 1 is not anticipated by *Salinger* under 35 U.S.C. §102(e).

But there are other reasons as well. The *Salinger* receiver 18 does teach of applicants' downstream module element. For one thing, applicants' downstream module is a part of a transmitter by virtue of claim 1 reciting a transmitter in the preamble and stating that the transmitter comprises the downstream module. The *Salinger* 18 receiver is not part of the *Salinger* transmitter 16. Again, for this reason alone, claim 1 is not anticipated by *Salinger* under 35 U.S.C. §102(e).

Yet another significant difference exists between applicants' invention as claimed in claim 1 and the *Salinger* disclosure. The examiner is respectfully requested to consider that applicants' claim 1 recites that the downstream module is:

"configured to extract said programmable transmission parameters from said compound signal to recover said processed signal and to convert said processed signal into a communication signal configured in accordance with said programmable transmission parameters."

Even if one adapts the convoluted linguistic constructed alleged in the Office Action and ignores that *Salinger* fully teaches what those skilled in the art understand to be a transmitter in connection with item 16, and further ignores that communication channel 30 is not within the *Salinger* transmitter 16, and still further ignores that receiver 18 is not within the *Salinger* transmitter 16, the resulting structure nevertheless fails to teach this limitation. In particular, if one were to equate the *Salinger* receiver 18 with applicants' downstream module, such a receiver 18 would not process its received signal into a communication signal configured in accordance with programmable transmission parameters. Rather, the *Salinger* receiver 18 generates output stream 46, which is not a communication signal configured in accordance with said programmable transmission parameters.

In addition, *Salinger* teaches of a receiver controller 62 and a computer 76 that generate control data which get transmitted through another an inherent, but not disclosed, transmitter back through reverse channel 58 to the other side of the communication channel. These control data are not extracted programmable transmission parameters nor do they include a recovered processed signal. Again, for this reason alone, claim 1 is not anticipated by *Salinger* under 35 U.S.C. §102(e).

Accordingly, *Salinger* fails to teach of at least three limitations that are present in applicants' claim 1. Consequently, applicants' claim 1 is not anticipated by *Salinger*, and claim 1 should be found allowable. Likewise, independent claims 11 and 19 include similar features and limitations to those discussed herein, and claims 11 and 19 should also be found allowable over *Salinger* for the above-discussed reasons.

Nor is claim 1 obvious over *Salinger*. The linguistic construction offered by the Office Action is absurd and would not even be considered by those skilled in the art. The linguistic construction offered by the Office Action confuses an entire bi-directional communication system with a transmitter, even though the very reference which teaches the bi-directional communication system teaches of a transmitter. It is improper to ignore what *Salinger* clearly teaches to be a transmitter and to fabricate a bizarre definition of a transmitter that differs from applicants' intended meaning and from the meaning well-understood in the art, as evidenced by the very *Salinger* reference used in rejecting applicants' claims. This bizarre mischaracterization of a transmitter provides strong evidence that it is applicants' application that has been improperly used in hindsight to reject applicants' own claims.

More specifically, the "transmitter" construction offered by the Office Action becomes absurd because one would need to mingle programmable transmission parameters with a processed signal in a communication system transmitter 16, transmit the resulting compound signal to the communication system receiver 18, where the transmission parameters would be extracted (after already being transmitted through the communication channel). Then, on the receiver side of the communication channel the processed signal would be converted into a communication signal in accordance with the programmable transmission parameters. One skilled in the art would not do this on the receiver side of the channel because the processed signal has already been transmitted through the communication channel at that point.

Nor is claim 1 obvious over *Curtis* (U.S. Patent No. 5,288,307), either alone or in combination with *Salinger*. The Office Action relied upon the *Curtis* reference in rejecting claims 2, 3, and 19-20. *Curtis* teaches of a repeater having numerous transceivers 110 coupled together via a data bus. But *Curtis* fails to teach of a transmitter in which programmable transmission parameters are mingled with a processed signal, transported through an intra-transmitter signal transporter, then extracted and used to convert the recovered processed signal into a communication signal configured in accordance with the same programmable transmission parameters. One would need to modify *Curtis* or *Salinger* before either or both would resemble applicants' claimed invention. But neither reference conveys any suggestion of the needed modifications. Accordingly, claim 1 is not obvious over *Curtis* or *Salinger*, either alone or in combination with one another.

Claims 4 and 5 are allowable due to their dependence on claim 1, and claims 14 and 15 are allowable due to their dependence on claim 11. In addition, independent reasons exist for finding

claims 4, 5, 14, and 15 allowable. With respect to claims 4 and 14, the Office Action alleges that a downstream module modulates a carrier signal to exhibit a frequency specified by programmable transmission parameters received from an upstream module, and cites a passage in column 7 of the *Salinger* reference.

Applicants' respectfully disagree. With respect to claims 5 and 15 the Office Action makes a similar argument and cites the same passage.

It is not clear to which component in the *Salinger* communication system the Office Action refers. These claims recite structure and actions of the downstream module. *Salinger* clearly teaches of a modulator 24 located within a transmitter 16. But this cannot be the component to which the Office Action refers because the Office Action also characterizes the transmitter 16 as being an upstream module and characterizes the *Salinger* receiver 18 as being a downstream module.

Although not disclosed, *Salinger* inherently includes another transmitter to drive the return half of the bi-directional communication channel, labeled reverse channel 58, and this undisclosed transmitter will inherently have a modulator. But such a modulator does not do what these claims recite. For example, claim 4 states that the carrier signal should exhibit a frequency specified by the programmable transmission parameters. The other claims have comparable limitations for the purposes of this discussion. Nothing in *Salinger* teaches the return transmitter modulating in accordance with programmable transmitter parameters provided from the opposite side of the communication channel. The recited passage in column 7 of the *Salinger* reference indicates that controller 60 selects a new carrier frequency, symbol rate, and constellation size. Again, this does not teach what claim 4 recites. Controller 60 is located on the SOI's transmitting side of the bi-directional

channel and is associated with modulator 24. But this is what the Office Action characterizes as the upstream module and therefore is not part of the downstream module.

Accordingly, *Salinger* fails to teach what applicants claims, and independent reasons exist for finding claims 4, 5, 14, and 15 allowable.

Claims 10 and 18 are allowable due to their dependence on claims 1, and 11, respectively. In addition, independent reasons exist for finding claims 10 and 18 allowable. The Office Action alleges that the transceiver of Fig. 2 is implemented as a downstream module. But *Salinger* teaches of two transceivers, one on each side of the communication channel. Accordingly, it is not clear to which component in the *Salinger* communication system the Office Action refers. As discussed above, the Office Action characterizes the receiver-side of the channel from the forward direction as being a downstream module. But the Office Action cites passages in column 5 lines 32-47 that reference power amplifier 28 and the like associated with transmitter 16, which the Office Action characterizes as an upstream module, not the downstream module of claims 10 and 18. And, *Salinger* is silent on implementation details of the transmitter that drives return channel 58.

Accordingly, *Salinger* fails to teach what applicants claims, and independent reasons exist for finding claims 10 and 18 allowable.

Claim 12 is allowable due to its dependence on claim 11. In addition, independent reasons exist for finding claim 12 allowable. The Office Action alleges that *Salinger* discloses that a transporting activity causes a compound signal to experience varying amounts of delay, and the Office Action cites

"column 6, 5, lines 9-26" in support of this allegation.

Applicants respectfully request reconsideration.

Applicants' claim 12 recites that "said transporting activity causes said compound signal to experience varying amounts of delay." The Salinger passages cited in the Office Action teach that a received communication signal is delayed for alignment purposes. But nothing in Salinger teaches that a signal experiences varying amounts of delay.

Accordingly, *Salinger* fails to teach what applicants claims, and independent reasons exist for finding claims 12 allowable.

Claims 7 is allowable due to its dependence on claim 1 through claim 6. Likewise, claims 13 and 17 are allowable due to their dependence on claim 11, directly or indirectly. In addition, independent reasons exist for finding claims 7, 13, and 17 allowable. In providing reasons in support of rejecting claims 7, 13 and 17, the Office Action acknowledges that the prior art failed to disclose that which applicants claim. But instead of finding an example of that which *Salinger* failed to teach, the Office Action summarily, and improperly, concluded that it would have been obvious to do that which *Salinger* failed to teach. This amounts to an improper use of hindsight where that which applicants teach is used against the applicants. Accordingly, applicants respectfully challenge the Examiner to:

- 1) find prior art that properly teaches that which *Salinger* fails to teach,
- 2) provide an affidavit as set forth by 37 CFR 1.107(b) disclosing matters within the Examiner's personal knowledge, or
- 3) allow applicants' claims.

Claims 2, 3, 6, 8 ,9 , 16, 17, 20-21 are allowable due to their dependence on independent claims 1, 11, and 19, as discussed above.

Applicants believe that the foregoing amendments and remarks are fully responsive to the rejections and objections recited in the 10 May 2004 Office Action and that the present application is now in a condition for allowance. Accordingly, reconsideration of the present application and the issuance of a timely Notice of Allowance are respectfully requested.

Respectfully submitted,



Lowell W. Gresham
Attorney for Applicant
Reg. No. 31,165

Lowell W. Gresham
5727 North Seventh Street
Suite 409
Phoenix, AZ 85014
(602) 274-6996

SERIAL NO. 09/649,559
Reply to Office action of 10 May 2004
Page: 22

APPENDIX